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Lisa M. Davis
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Docket No. : 5677-177

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No : 10/658,241

Applicant : Alan P. Kozikowski et al.

Filed : September 9, 2003

Title : Synthesis Of Dimeric, Trimeric, Tetrameric Pentameric, And Higher Oligomeric Epicatechin-Derived Procyanidins Having 4-Beta,8-Interflavan Linkages And Their Use To Inhibit Cancer Cell Growth Through Cell Cycle Arrest

TC/A.U. : 1626

Examiner : Robert Shiao, Ph.D.

Primary Patent Examiner : Rita Desai

Confirmation No. 4114

RESPONSE TO RESTRICTION REQUIRMENT AND ELECTION OF SPECIES

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is submitted in response to the Office Action mailed March 9, 2005. A response is due April 9, 2005.

A. Restriction Requirement and Election of Species

According to the Examiner, the 41 claims presented include both a plurality of independent and distinct inventions and patentably distinct compounds (or species) within each invention. For these reasons, the Examiner has restricted the claims as follows:

- II. Claims 1-14, drawn to a process, classified in class 549 and various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- III. Claims 15 and 17-18, in part, drawn to a process, classified in class 549 and various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- IV. Claims 16 and 17-26, in part, drawn to a process, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- V. Claims 27-28, drawn to a process, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- VI. Claims 29-30, drawn to a process, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- VII. Claims 31 and 33, drawn to compounds, classified in class 548 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- VIII. Claim 32, drawn to a process, classified in class 548 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- IX. Claim 34, drawn to a process, classified in class 548 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- X. Claims 35, drawn to a process, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- XI. Claim 36, drawn to a compound, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- XII. Claim 37, drawn to a process, classified in class 549 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.
- XIII. Claims 38-41, drawn to a method of use (i.e., treating breast cancer), classified in class 514 with various subclasses. If this group is elected, applicants are requested to elect a single species for the search.

B. Applicants' Response to Restriction Requirement

Applicants elect with traverse the process of Claims 15, 17(15), and 18 (Group II) which are directed to a process for preparing a mixture of benzyl-protected (4 β , 8)-oligomers of epicatechin or

catechin by reacting a tetra-O-benzyl-protected epicatechin or catechin monomer or oligomer with one specific penta-O-protected, C-4 activated epicatechin monomer in the presence one specific catalyst. The specific penta-O-protected, C-4 activated epicatechin monomer is 3-O-acetyl-4-[2-benzothiazolyl)thio-5, 7, 3', 4'-tetra-O-benzyl epicatechin. The specific catalyst is silver tetrafluoroborate.

It is respectfully submitted that Claims 16, 17 (16), and 19 to 26 (Group III) should be examined together with the Group II claims, i.e., Claims 15, 17 (15), and 18. The process of Claim 16 uses the same specific penta-O-protected, C-4 activated epicatechin monomer and the same specific catalyst used in Claim 15. The only difference is that the protected monomer or oligomer that is reacted with the penta-O-protected, C-4 activated epicatechin is a penta-O-protected monomer or oligomer instead of a tetra-O-protected monomer or oligomer. The extra protecting group is an O-acetyl group at C-3 position.

It is respectfully submitted that a search for the protected monomers and oligomers should include a search for all protecting groups known to be useful for protecting the hydroxyl groups of epicatechin and catechin monomers and oligomers. The five hydroxyl groups include the phenolic hydroxyl (OH) groups at the 5, 7, 3', and 4' positions the alcoholic hydroxyl (OH) group at the 3 position.

C. Applicants' Response to Election of Species

Applicants elect with traverse the tetra-O-benzyl protected epicatechin monomer and oligomer of Claim 15. Applicants respectfully submit the tetra-O-benzyl protected catechin monomer and oligomer of Claim 15 should be searched at the same time because catechin and epicatechin are isomers. A search for the isomers should be done and it should not be unduly burdensome.

Applicant: Kozikowski et al.
Serial No.: 10/658,241
5677-177

D. Closing

Reconsideration of the restriction requirement between Groups II and III is requested.

Withdrawal of the election of species requirement is also requested.

Date: April 1, 2005

Respectfully submitted,

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